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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/620,521

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Theodor Abels

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EXAMINER

TRAN, DALENA

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/620,521	ABELS ET AL.	
	Examiner	Art Unit	
	Dalena Tran	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 7-13,15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Notice to Applicant(s)

1. This office action is response to the amendment filed on 2/21/06. As per request, claim 1 has been amended. Claims 2,4, 6, 14, has been cancelled. Thus, claims 1, 3, 5, and 7-13, and 15 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5, and 7-13, and 15 are rejected under 35 U.S.C.103(a) as being unpatentable over Avitan (6,050,770), in view of Griesenbrock (4,354,568), and Yuki et al. (4,520,443).

As per claims 1, and 13, Avitan discloses an industrial truck, comprising: a plurality of wheels, a load lifting and a drive system (see column 5, lines 12-57; and column 6, lines 33-67), a stabilizing device configured to prevent tipping of the truck and comprising a plurality of wheel load sensors, each load sensor connected to an individual wheel and configured to measure a wheel load, a monitoring device, wherein the load sensors are connected to the monitoring device which is configured to control or regulate at least one of the load lifting system and the drive system of the truck based on the wheel load sensor data (see the abstract; and columns 5-6, lines 13-67), the monitoring device includes an evaluation unit configured to determine at least one of transverse tipping forces, longitudinal tipping forces, tipping moments, and load weight (see the abstract; and columns 9-10, lines 49-8). Avitan does not explicitly

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disclose wheel load sensors, and integrated wheel load sensor. However, Avitan discloses the load weights at each of the vehicle wheels 30,32,34 have been measured (column 5, lines 64-65); transducers are utilized as weight sensors in connection with one or more vehicle wheels (column 9, lines 53-55); transducer associated with at least one wheel (column 10, lines 17-18); and the transducer comprising an annular load cell (column 10, lines 21-22). Furthermore, integrated wheel load sensor, as applicant described the summary of the invention in page 3, last paragraph of the appeal brief (8/25/04), figure 2, R1, R2, are wheel load sensors, also R1, R2 are integrated wheel load sensors. Therefore, it would have been obvious that integrated wheel load sensor just a wheel load sensor integrated into a vehicle wheel. Therefore, it would have been obvious to one of ordinary skill in the art that the weight sensors in connection with one or more vehicle wheels implies wheel load sensors integrated into vehicle wheels, and included load cell, and measures the load weights at each of the vehicle wheels.

In addition, in claims 1, and 13, Avitan does not disclose a speed of rotation sensor. However, Griesenbrock discloses wherein at least two wheels of the truck have a speed of rotation sensor connected to the monitoring device (see the abstract; columns 1-2, lines 54-12; column 2, lines 28-46; and columns 4-5, lines 52-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Avitan by combining integrated wheel load sensors for accurately determine vehicle wheel load preventing elevation of the load, and a speed of rotational sensor for sensing the speed rotational of wheels, therefore, effectively controlling the speed of the drive motor, and adjust controlling vehicle speed to provide safety, and maintain stability for the vehicle.

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Also, in claims 1, and 13, Avitan does not explicitly disclose the monitoring device is connected with actuator units. However, Avitan discloses the processor (110) is employed to control the overall operation of the truck (10), including the drive motors, as well as hydraulic system such as mast elevation and tilt control (column 8, lines 20-23), the lowering of mast, tilting of mast in permitted direction, maintaining or reducing travel speed, increasing turn radius (column 9, lines 12-13), the processor then effects control over the speed of the drive motors to prevent the operator from increasing the vehicle speed (column 9, lines 5-6), also, processor implementation to actuate stabilizing control response, e.g. reduce vehicle speed, apply vehicle brakes (column 9, lines 59-60). It would have been obvious to one of ordinary skill in the art that the processor implies the monitoring device; mast elevation or tilt are all control operation of a truck; and control vehicle speed and brakes, all implies moving control mechanism. Therefore, it would have been obvious that an actuator unit inherently connected to the processor in order to control all the operations because an actuator unit is a mechanism for moving or controlling something indirectly instead of hand. However, the monitoring device connected with actuator units for operation and moving control are also well known in the art, to modify for the teach of Avitan, Yuki et al. disclose the monitoring device is effectively connected with actuator units for at least one of inclination of a lifting mast, adjusting the height of a load, adjusting vehicle speed, adjusting vehicle acceleration, adjusting braking intensity, and adjusting steering angle (see the abstract; and columns 6-7, lines 5-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Avitan, by combining actuator units for at least one of inclination of a lifting mast, adjusting the height of a load, adjusting vehicle speed, adjusting vehicle acceleration, adjusting braking intensity, and adjusting steering angle for

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controlling vehicle operations such as loading and unloading mechanism and unstable running condition to provide vehicle safety.

As per claim 3, Avitan discloses wheel load sensors are provided on all the wheels of truck (see columns 5-6, lines 64-2).

As per claims 5 and 15, Avitan discloses the monitoring device includes an evaluation unit configured to determine at least one of transverse tipping forces, longitudinal tipping forces, tipping moments, and load weight (see the abstract; and columns 9-10, lines 49-8).

As per claim 7, Avitan does not disclose a speed of rotation sensor. However, Griesenbrock discloses wherein at least two wheels of the truck have a speed of rotation sensor connected to the monitoring device, and each speed of rotation sensor is integrated into a wheel bearing (see the abstract; columns 1-2, lines 54-12; column 2, lines 28-46; and columns 4-5, lines 52-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Avitan by combining integrated wheel load sensors for accurately determine vehicle wheel load preventing elevation of the load, and a speed of rotational sensor for sensing the speed rotational of wheels, therefore, effectively controlling the speed of the drive motor, and adjust controlling vehicle speed to provide safety, and maintain stability for the vehicle.

As per claim 8, Avitan discloses the monitoring device includes an evaluation unit configured to measure the speed of the truck (see column 9, lines 3-48).

As per claim 9, Avitan, does not disclose the monitoring device is connected to a display unit. However, Yuki et al. disclose the monitoring device is connected to a display unit for displaying at least one of a load, a load moment, a truck speed, an acceleration, a turning radius,

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and tipping forces (see columns 5-6, lines 39-4; and columns 13-14, lines 32-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Avitan, by combining a display unit for displaying at least one of a load, a load moment, a truck speed, an acceleration, a turning radius, and tipping forces for helping an operator read a load weight or lifting condition of the truck, so the operator can easily piling and unloading the load at the predetermined position.

As per claim 10, Avitan discloses the industrial truck is a counterbalanced fork lift truck (see columns 2-3, lines 66-13).

As per claim 11, Avitan does not discloses two wheels with the speed of rotation sensors are located on the same axle. However, Griesenbrock discloses the two wheels with the speed of rotation sensors are located on the same axle (see the abstract; columns 1-2, lines 54-12; column 2, lines 28-46; and columns 4-5, lines 52-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Avitan by combining speed of rotation sensors are located on the same axle for stabilizing the truck lifting system.

As per claim 12, Avitan discloses the wheel load sensors are provided on all the wheels of the trucks (see columns 5-6, lines 64-2).

Remarks

4. Applicant's argument filed on 2/21/06 has been fully considered but they are not deemed to be persuasive.
5. Applicant's argument on page 6, fourth paragraph, about "unrelated bits and pieces from various cited reference". In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the

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rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Also, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, when combining Griesenbrock ('568) to disclose the limitation "speed of rotation sensor", both ('568) and Avitan ('770) disclose a lift truck including a control device for a load handling mechanism (see '770, the abstract; also, see ('568), column 6, lines 25-27); both references comprises travel drive control system for steerable wheels, which comprises travel drive motor adapted to be controlled in a predetermined manner to control the maximum vehicle speed, preventing an increase in vehicle speed to provide vehicle safety (see '770, the abstract; column 8, lines 20-23; and column 9, lines 5-18; also, see ('568), column 5, lines 51-56; column 6, lines 21-27; and column 2, lines 8-23). The reason for combining ('568), is ('568) disclose speed of rotational sensor are associated with vehicle wheels which sense the speed rotational of wheels, so that the instantaneous speed can be sensed with high accuracy. In this way the influences exerted by the road surface on the wheels, and also a spinning of a wheel are also detected, so that the motor control can be corrected in exact dependence on the instantaneous speeds of the driven wheels, and the maximum speed of the vehicle can be corrected to prevent an increase vehicle speed. Therefore, it would have been advantage to modify the teach of

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Avitan by combining speed of rotation sensor disclose in Griesenbrock so that any error caused to increase the vehicle speed will be detected and eliminated in order to increase vehicle stability and safety in vehicle load handling equipment and vehicle movement.

In combining Yuki et al. ('443) about the monitoring device is connected with actuator units to modify for the teach of Avitan, it is properly to combine these references because ('443) also a control system of a lift truck for controlling a load handling mechanism to achieve safety and stable condition (see column 11, lines 39-51).

In response to page 6, the next paragraph to last paragraph, about wheel load sensor. Even there is an alternative way of measuring a wheel load is a so-called "proximity sensor", which measures the distance of the vehicle to the road or floor (as applicant's discuss in the remark), however, in Avitan, there is not mention any where in the reference about the distance of the vehicle to the road or floor, only Avitan discloses of load cell as discussed above. Therefore, Avitan does not explicitly disclose wheel load sensors, and integrated wheel load sensor. However, Avitan discloses the load weights at each of the vehicle wheels 30,32,34 have been measured (column 5, lines 64-65); transducers are utilized as weight sensors in connection with one or more vehicle wheels (column 9, lines 53-55); transducer associated with at least one wheel (column 10, lines 17-18); and the transducer comprising an annular load cell (column 10, lines 21-22). Furthermore, integrated wheel load sensor, as applicant described the summary of the invention in page 3, last paragraph of the appeal brief (8/25/04), figure 2, R1, R2, are wheel load sensors, also R1, R2 are integrated wheel load sensors. Therefore, it would have been obvious that integrated wheel load sensor just a wheel load sensor integrated into a vehicle wheel. Therefore, it would have been obvious to one of ordinary skill in the art that the weight

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sensors in connection with one or more vehicle wheels implies wheel load sensors integrated into vehicle wheels, and included load cell, and measures the load weights at each of the vehicle wheels.

In response to the first paragraph in page 7 of the amendment, as cited above, Avitan discloses the monitoring device includes an evaluation unit configured to determine at least one of transverse tipping forces, longitudinal tipping forces, tipping moments, and load weight (see the abstract; and columns 9-10, lines 49-8). Avitan does not explicitly disclose the monitoring device is connected with actuator units. However, Avitan discloses the processor (110) is employed to control the overall operation of the truck (10), including the drive motors, as well as hydraulic system such as mast elevation and tilt control (column 8, lines 20-23), the lowering of mast, tilting of mast in permitted direction, maintaining or reducing travel speed, increasing turn radius (column 9, lines 12-13), the processor then effects control over the speed of the drive motors to prevent the operator from increasing the vehicle speed (column 9, lines 5-6), also, processor implementation to actuate stabilizing control response, e.g. reduce vehicle speed, apply vehicle brakes (column 9, lines 59-60). It would have been obvious to one of ordinary skill in the art that the processor implies the monitoring device; mast elevation or tilt are all control operation of a truck; and control vehicle speed and brakes, all implies moving control mechanism. Therefore, it would have been obvious that an actuator unit inherently connected to the processor in order to control all the operations because an actuator unit is a mechanism for moving or controlling something indirectly instead of hand. However, the monitoring device connected with actuator units for operation and moving control are also well known in the art, to modify for the teach of Avitan, Yuki et al. disclose the monitoring device is effectively

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connected with actuator units for at least one of inclination of a lifting mast, adjusting the height of a load, adjusting vehicle speed, adjusting vehicle acceleration, adjusting braking intensity, and adjusting steering angle (see the abstract; and columns 6-7, lines 5-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Avitan, by combining actuator units for at least one of inclination of a lifting mast, adjusting the height of a load, adjusting vehicle speed, adjusting vehicle acceleration, adjusting braking intensity, and adjusting steering angle for controlling vehicle operations such as loading and unloading mechanism and unstable running condition to provide vehicle safety.

Examiner maintains that all the references cited meet the language of the claims invention. Therefore, the rejection under 35 U.S.C.103(a) are considered to be proper.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136 (a).

A shorten statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE MONTHS** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136 (a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 571-272-6968. The examiner can normally be reached on M-F 6:30 AM-4:00 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner
Dalena Tran

A handwritten signature in black ink, appearing to read 'Dalena Tran', with a long horizontal flourish extending to the right.

April 29, 2006